

**Technical Review April 17, 2012 Quality Assurance Project Plan/
Sampling and Analysis Plan
Former United Shoe Machinery Division North Parcel
131 Elliot Street, Beverly, MA**

Form A: Title and Approval Page

1. On page 1 and page 3, please change the U.S EPA Project Manager to Marilyn StFleur.

Form D: Project Description

2. The list on page 7 should also include naphthalene. Also, 1,2,5-trimethylbenzene should likely read 1,3,5-trimethylbenzene.
3. Under the Risk Characterization section on page 9, multiple reasons for eliminating potential compounds from the risk assessment are listed (e.g., not detected in historical soil gas, detected outdoors, and detected at concentrations less than the RSLs). Please revise this section to state that all detected constituents will be carried through the risk assessment in order to calculate a total risk to receptors.
4. On page 10 it states that acceptable risk shall be deemed as **total** carcinogenic risk less than 1×10^{-5} . In order to evaluate a risk at this level, the screening levels that should be added to form L for comparison to the reporting limits must be at the 1×10^{-6} risk level. Please revise this table accordingly.
5. Compounds detected in the ambient air at higher concentrations than indoor air should not be eliminated as contaminants of concern. The levels of contaminants of concern detected inside buildings can have contributions from the outside, from possible soil gas migrating into the building from underneath and from possible sources inside the building unrelated to soil or groundwater contamination sources. It is important to consider all data and information relevant to vapor intrusion to effectively evaluate the risk to building occupants. Therefore, all compounds of concern (those detected in previous soil gas samples and their degradation products) detected inside the buildings should be retained for the quantitative risk assessment. At the end of the risk assessment, uncertainties should be discussed. At that point it may be appropriate to refine the risk assessment results and consider ambient air data and other information to make the final risk management decision regarding whether or not corrective action needs to be taken.

Form E: Sampling and Analysis Plan

6. On page 11, it states that there will be only one sample collected per area. If only one sample will be collected, please ensure that it is representative of areas where children spend most of their time but also consider placing canisters next to any potential preferential pathways for soil gas entry into the areas.
7. Meteorological data, particularly ambient temperature, atmospheric pressure, wind speed, wind direction and precipitation amounts should be collected on-site or obtained from a local weather station that represents the geographical area 24-hours prior to and during the

sampling event. This data along with HVAC operations information will help explain the extent to which soil gas maybe migrating into the building and impacting indoor air quality.

Sample Collection and Analysis

- 8 . Please clarify in the samples will be run in the SIM mode. Although the list provided as Table B-3 in SOP/A-001, does not contain all the COCs, most of the reporting limits are below the RSL at a 1×10^{-6} range.
- 9 . Please confirm that the reporting limits contained in table B-3 take into account the possible need for dilution.

Form L: Analytical Precision and Accuracy

- 10 . Please add to this table, or prepare an additional table that compares the reporting limits to the EPA RSLs and/or Mass DEP screening levels. This will clarify how the indoor air data will be used for the quantitative risk assessment and help insure the analytical reporting limits are below the screening levels.
- 11 . There are several constituents listed that have either a RSL value for carcinogenic or non-carcinogenic toxicity basis but not for both. Also, there are some constituents listed that have neither. Please describe what values will be used and/or how these will be carried through the risk assessment.
- 12 . Please verify the reporting limits (RLs) listed in this table. In comparison to Table 1 provided by the lab and contained in the SOP for Air Analysis APH (document pg 133 of 246), the units do not agree. Also, the RLs for naphthalene, m- & p-xylenes, C9-C12 aliphatics and C9-C10 aromatics do not agree.
- 13 . On form L, vinyle chloride should read vinyl chloride.